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AGRICULTURE.

On the theory of the operation of gypsum or plaster of Paris, in promoting the growth of plants.

BY JOHN GORHAM, M. D.

From the period of the introduction of sulphate of lime, gypsum, or plaster of Paris, into agriculture, the mode in which it operates in fertilizing soils, or perhaps more correctly in facilitating the growth of vegetables, has been a subject of much speculation. The question is not yet decided, nor probably can it be determined, until, by long continued observation, and repeated experiment, a more extensive series of facts shall have been collected and properly arranged. From what is already known, however, on this subject, various conclusions have been drawn and at present we must content ourselves with that theory which best accords with the acknowledged properties of gypsum, with the nature and qualities of soils and with the economy of the vegetable system. I propose briefly to examine the plausibility of the different modes of explanation which have been offered on the action of this compound, and afterwards to state the theory which appears to me most obviously to flow from a view of the few facts that experience and observation have established.

The opinion respecting the operation of plaster of Paris, the most generally adopted is that, which supposes it to depend on its power of absorbing or imbibing moisture. It has been said that dew is found more plentifully on those parts of a field, over which the plaster in powder has been diffused, than on those which received no gypsum. If this be the case, it must be owing either to the gypsum being a better conductor of heat than the earth with which it lies in contact, or to its power of attracting water from the atmosphere. Were the plaster in large masses, its heat might be conducted off more rapidly than that of the surface of the ground; its temperature would thus be diminished, or it would become comparatively cool, and thus be rendered capable of condensing the aqueous vapour contained in the air continually passing over its surface. But the plaster is applied in the form of powder; in that state its conducting power must be diminished, and it is very probable that it can neither acquire nor lose its heat with greater rapidity than the soil with which it is mixed. The truth of the assertion above mentioned is very questionable; it is supported on doubtful authority, and it is not advanced with that confidence which accompanies the expression of a fact which is universally acknowledged. The idea of its strong attraction for moisture, appears to have arisen from the fact that gypsum produces the most obvious and the most beneficial effects on dry soils, from which it may be supposed that plants cannot always derive the quantity of water necessary to their growth and vigour. But even on the supposition that it does possess, even in a very considerable degree, the property of imbibing moisture, it can hardly be supposed that the extent of this power is such, as to supply a rich growth of vegetables with additional water, which shall be sufficient to produce a vegetation more luxuriant than in ordinary circumstances. The amount of the powder of gypsum distributed over an acre is from two to three bushels, the layer consequently is very thin; it soon becomes mixed with the rest of the soil; it then exists only in small proportions, and it is difficult to conceive that in this state, it can absorb much moisture from the air. Besides in some cases, for example, where it is intended to accelerate the growth of Indian corn, it is often applied immediately to the seed, in the proportion of about a tea spoonful to each hill, and like the seed is covered with a layer of earth. In this situation it cannot be supposed to attract moisture from the air, nor is it more evident how it can exert any influence in this respect on the neighboring soil, for it is impossible to conceive that even these substances which are known to possess the most powerful attraction for water, could, in this proportion, afford any considerable part of this fluid which is taken up in such large quantities by every healthy plant. The sphere of this attraction must in these circumstances be very limited, and if the soil immediately in contact with the gypsum, were to yield its fluid to this compound, we have no reason to suppose that it would be immediately supplied from that more remote, and thus establish a current, if the expression be not too strong, toward the seeds and roots of the plant. As the corn which has been treated in this way generally (if not always) flourishes more vigorously than when left to the powers of the soil alone, we may infer that the gypsum continues to act, after it has acquired a considerable height. It therefore appears absurd to say that a spoonful of this compound should thus be able to furnish, or should thus become the means of supplying any considerable portion of the water necessary to the sustenance of a large plant for weeks, even granting its strong attraction for that fluid. I may now, however, observe that from our knowledge of the composition and properties of gypsum, we may safely deny that in its ordinary state it possesses this property in any degree, more than other earthy bodies, whose particles are not strongly coherent. It never exhibits this property, unless it has been exposed to heat. Gypsum is a compound of lime, sulphuric acid, and water. When exposed to a high temperature in a solid state, it loses the water necessary to its constitution, and falls into powder. The remaining compound of lime and sulphuric acid has then a powerful attraction for this fluid, and when they are mixed with each other, care having been taken that the quantity of water added should not exceed that which has been evolved, the semi-fluid again becomes a solid: a fact which is sufficiently familiar in the formation of *stucco*. When thus formed anew, the attraction for water ceases, for the gypsum remains dry and solid, while those salts or compounds which possess this property in the greatest degree, are the most deliquescent or the most disposed to become liquid on exposure to the air, or moisture. Whence it appears that the natural compound of lime and sulphuric acid, at least that which is most common, and the only one employed in agriculture, is already saturated with water, that it is not deliquescent, and therefore that there is no probability, in reasoning from observation independent from direct experiment, that it has the smallest additional attraction for that fluid. It may perhaps be thought that the effects of gypsum on plants might be augmented by the use of the powder after its water had been dissipated by exposure to heat. But a moment's reflection will be sufficient to convince us that no additional advantage could be gained by this experiment. When deprived of its water, the attraction of the remainder for this fluid is so powerful that it would readily absorb as much as was required from the soil, but this water, instead of being transmitted to the roots of vegetables, would be arrested and combined with the other ingredients, and ordinary gypsum must of course be the result.

From what has been observed it may be justly suspected, if not actually believed, that the agency of gypsum in promoting the growth of plants, cannot with propriety, be ascribed to its power of obsorbing or attracting moisture.

2. It has been thought by many that gypsum operates by accelerating putrefaction, or by promoting the decomposition of animal and vegetable matter.

It is much to be regretted that on purely practical subjects, and perhaps on none more than that of agriculture, we should content ourselves with loose and hypothetical opinions, unsupported by facts or experience. It would not be a difficult task for any gentleman farmer, with even a superficial knowledge of chemistry, to reduce a multitude of supposed truths to the test of experiment, and the result would probably be equally useful and honorable. If gypsum operate in the way I have just mentioned, it must be either, 1. by loosening the soil and thus allowing a freer access to the air, light, heat and moisture, or, 2. by increasing the temperature of the materials, or, 3. by affording something capable of exciting and continuing the fermentative process.

Some advantages may possibly be derived from gypsum by its mechanical effects of opening the soil or rendering it less dense; but when we consider that it is added in comparatively small proportions and that in some cases it produces its specific actions, though applied immediately to the seeds or roots of the vegetable in even minute quantities, this effect at best can be regarded only as trivial. If the soil be composed principally of animal and vegetable matter, there is no doubt but that much greater benefit may result from ploughing, by which the mould would be more extensively exposed to the influence of the air, and would thus much sooner undergo those chemical changes, on which the subsequent fertility is in a great measure dependent.

There is no reason which should lead one to suppose that plaster can increase the temperature of a decomposing or decomposed vegetable mass; for as the heat generated in this process arises from fermentation and this again from chemical changes in the nature of the materials, the sulphate of lime must itself undergo some change or some decomposition to add to the fermentative matter and thus to augment its temperature. But, so far as we know, neither vegetable nor perhaps animal matter contains any thing which in the circumstances, in which they are placed, is capable

of effecting this decomposition; for the attraction between the constituent principles of gypsum is exceedingly strong, and although potash, which is either contained in, or is formed during the combustion and perhaps the spontaneous dissolution of vegetables, is able to abstract the sulphuric acid from the lime, yet is only when the alkali exists in excess, and its affinity for the acid is rendered more effectual by quantity, by heat, and by being long boiled with this calcareous compound. So far therefore we have no reason to believe that sulphate of lime can have any effect in increasing the heat of common soils,or of a mixture of animal and vegetable matters, while undergoing the process of decomposition.

The last supposition, that gypsum may accelerate the putrefaction of the organized matter, with which it is mixed, by affording something capable of exciting or increasing the fermentative action, is less probable. The species of fermentation, which takes place in this instance,is that to which chemists have given the name of putrefactive. It is the gradual reduction of organized substances into soil, in consequence of the operation of chemical laws, when not counteracted nor controuled by the principle of life. This action is spontaneous, and to be produced requires merely a moderate temperature, water, and contact with the air. There is no fact, with which I am acquainted, in favour of the supposition, that gypsum, as a compound, can facilitate this process, nor is there any thing in its composition analogous to animal or vegetable matter which can undergo this kind of decomposition. In the vinous and acetous fermentations, we know that these actions may be, and are, excited by the addition of yeast, or what some chemists have denominated ferment, a substance which, if not the same with, is at least very similar in properties to vegetable gluten. The putrefactive fermentation may likewise be commenced by the mixture with a substance already in that state. But as sulphate of lime is incapable of fermentation, as it can furnish nothing which can produce it, and as, when mixed with the fermenting mass,it is found at the end of the process, unchanged in any of its properties, we may safely conclude that gypsum does not increase the fertility of soils by hastening the decomposition of organic bodies.

The only way we can conceive it to operate in this respect, is by depriving some of the vegetable productions of life, by which the ordinary affinities of chemistry may be brought into action, and thus the mass of decomposed matter or vegetable mould, and of course the quantity of nutriment, be indirectly increased. But there are no facts I believe to prove, that plaster when mixed with soils even in excess,possesses this positive power of destroying the life of plants, and this mode therefore of explaining the action of gypsum, is entitled to no greater weight than those which we have before examined. But it may be said that although neither of the circumstances above mentioned be sufficient, singly, to account for the acknowledged action of this compound, yet that it may be dependent upon and constituted by all of them: and therefore may be ascribed partly to its opening the soil, partly to its facilitating the putrefactive process, and in part to its attracting moisture from the air. The weight of this argument must depend on the degree of merit that has been attached to each of the hypotheses. It has been seen that with regard to the last, we have allowed nothing in their favor, and have ascribed but little influence to the first; hence, if arguments which have been advanced to disprove the correctness of these hypotheses, be allowed to be just, when considered separately, they must have nearly equal weight when united.

As the modes of action assigned to gypsum appear to be inadequate to the explanation of the facts hitherto observed, we must look farther, and on considering this subject, it seems to me to accord best with the supposition, that it operates on the root of vegetables as a stimulant. To render this theory plain and intelligible, it will be necessary to premise that certain properties of life are common both to the animal and the vegetable system. They both possess the power of absorbing,of circulating, of secreting,and of converting foreign matter into their own substance. All the phenomena of vegetation concur to prove that plants like animals enjoy a principle to which has been applied the name of irritability, and which is simply the susceptibility to contraction on the application of stimuli. It is probably the property which is the first developed and the last extinguished in all organized beings. Whether they also possess sensibility is a question which from our limited knowledge of the functions of vegetables, we are unable satisfactorily to answer. There are some facts which have induced a few vegetable physiologists to suppose that they do. If it be so, its phenomena are by no means so obvious as those resulting from irritability, and even this principle is not so apparent in the vegetable as in the animal system, for in the latter it is developed every moment, while in the former it requires some study to be perceived. This difference in the two systems is probably to be attributed to the greater rigidity of parts in vegetables which of course are less susceptible, and to an organization much more simple than that of animals by which they may be deprived of that consent or connexion between various parts which has been called sympathy. Whoever is acquainted with the physiology of plants, cannot avoid remarking that "the propulsion of the sap: the secretions whence new products are formed; the motions of their leaves; their susceptibility to the impressions of external agents, heat, light, air, and moisture, and electricity; their growth, and the formation of the embryo plant, with similar powers, are phenomena inexplicable on any principles of mechanism, and so strikingly analogous to those of the animal system that they must be referred to the operation of a similar principle;" or a set of principles, one of which is irritability. The analogy between the properties of living animal and vegetable matter will appear even more intimate when we consider the circumstances by which their growth and vigour are accelerated and retarded and their condition is altered. In the former the proper balance of actions constituting health is preserved by the due regulation of food, of air, of exercise, and of temperature. If the food be moderately stimulant and nutritious, if the air be pure, the exercise equable, and the temperature uniform and mild, the operations of the system are free and unembarrassed.—If the influence of external agents be excessive, or if the system be deprived for a time of its accustomed stimuli, disease and even death may follow. In the latter also the health of the plant is dependent on the degree of heat, and light applied, the quality of the air surrounding it, and the quantity of nutriment it derives from the soil.—When excessive the plant is too highly stimulated; when deficient it languishes, and debility and disease may be the consequence either of too strong or too feeble action. Exercise also is probably equally necessary to the vegetable as to the animal system. Whence it appears that there exists an intimate relation of properties between the two great classes of organized beings, and that probably their functions may be continued by the operation of the same principles, modified by structure and situation.

Like animals then, vegetables may be more stimulated than usual. The effect would be to increase the natural actions of the parts thus excited, and when they are not excessive, the result would be a vigorous vegetation, and a more rapid developement of the organs. The metallic oxides, or compounds of metals and oxygen, the metallic salts, such as green vitriol, the native compounds of sulphur and iron, the neutral salts, such as nitre, &c. and the liquid oxy-muriatic acid, have been proved to promote the germination of seeds, and the growth of the plants. These substances, it has been supposed, operate by the oxygen or the base they afford for the direct nourishment of the vegetable. But I am inclined to believe that they produce their effects as compounds and as stimulants, or if decomposed, that the use of the oxygen is rather to increase the action, than directly to augment the bulk of the plant; for although oxygen may be obtained from most vegetables, it has been for the most part previously combined with hydrogen in the form of water, which with more probability has been absorbed by the roots, than produced in the vessels of the plant. Why then may not gypsum operate in the same way? There is certainly no great incongruity in the supposition, and it is no argument against its acting on this principle, that it is perfectly inert as it regards the irritability of the human system. It has neither taste nor odour, nor any perceptible stimulant action on the organs of touch; but does it follow that it should therefore produce no effect on the seeds or roots of vegetables; Oxide of manganese and litharge are inert to us, yet the experiments of physiologists appear to prove that they are not so to plants.

It may be supposed, that when the plaster of Paris is applied to the seed, it stimulates the little root, the action of the vessels is thus increased, absorption goes on more rapidly, and it acquires more nourishment in a given time than in ordinary circumstances,the consequeuces are a quick growth and enlargement of organs. If the stimulant effect be continued, the roots will become thicker than usual, they will spread to a greater distance from the centre, and perhaps penetrate deeper into the ground; hence in a given time, such a plant will absorb more fluids from the ground to be converted into sap, and to nourish the vegetable, than one which has not been thus stimulated; it will therefore be larger and more luxuriant.

It may be thought that if gypsum operate as a stimulant, it ought to produce the same effect in all cases, that is, it should act uniformly in all situations. But a slight view of the subject will be sufficient to convince us, that, as soils differ as much in nature as degrees of cohesion, some of them may contain ingredients which are in themselves highly stimulant, while others may, with regard to the vegetable fibre, be comparatively inert and bland. The application of plaster, to plants vegetating in soils of the former character, would not be followed by any obvious advantage;

while in the latter it might promote in a very considerable degree, the growth of the vegetables, by exerting a more stimulant power than any of the substances with which they are surrounded. This idea may perhaps afford an explanation of the fact, or supposed fact, that gypsum produces no effect on plants growing in the vicinity of the sea.—These soils are generally impregnated with common salt, muriate of magnesia, and even gypsum itself; for the water which passes through them, or which is obtained from wells in this neighborhood, uniformly indicates, with proper re-agents, the presence of these salts. This water, no doubt, in many places rises near the surface of the ground, and being constantly applied to the roots of vegetables, stimulates them so highly that no additional advantage can be derived from the use of plaster.

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Remarks by the Editor.—To the above very able observations by Dr Gorham, we shall subjoin some remarks by Sir Humphry Davy.

"Gypsum," says Sir Humphry, "consists of sulphuric acid (the same body that exists combined with water in oil of vitriol) and lime; and when dry it is composed of 55 parts of lime, and 75 of sulphuric acid. Common gypsum or selenite, contains besides sulphuric acid and lime, a considerable quantity of water; and its composition may be thus expressed:

Sulphuric acid, one proportion	75,
Lime, one proportion	55,
Water, two proportions	34.

"The nature of gypsum is easily demonstrated; if oil of vitriol be added to quick lime there is a violent heat produced; when the mixture is ignited, water is given off, and gypsum alone is the result, if the acid has been used in sufficient quantity: and gypsum mixed with quick lime, if the quantity has been deficient. Gypsum free from water, is sometimes found in nature, when it is called anhydrous selenite. It is distinguished from common gypsum by giving off no water when heated.

"Great difference of opinion has prevailed amongst agriculturists with respect to the uses of gypsum. It has been advantageously used in Kent, and various testimonies in favour of its efficacy have been laid before the Board of Agriculture of Mr Smith. In America it is employed with signal success; but in most counties of England it has failed, though tried in various ways, and upon different crops.

"Very discordant notions have been formed as to the mode of operation of gypsum. It has been supposed by some persons to act by its power of attracting moisture from the air: but this agency must be comparatively insignificant. When *combined* with water, it retains that fluid too powerfully to yield it to the roots of the plant, and its adhesive attraction for moisture is very inconsiderable; the small quantity in which it is used likewise is a circumstance hostile to this idea.

"It has been said that gypsum assists the putrefaction of animal substances, and the decomposition of manure. I have tried some experiments on this subject which are contradictory to the notion. I mixed some minced veal with about one hundredth part of its weight of gypsum, and exposed some veal without gypsum under the same circumstances; there was no difference in the time in which they began to putrefy, and the process seemed to me most rapid in the case in which there was no gypsum present. I made other similar mixtures, employing in some cases larger, and in some cases smaller quantities of gypsum; and I used pigeon's dung in one instance instead of flesh, and with precisely similar results. It certainly in no case increased the rapidity of putrefaction.—After stating that some kinds of peat ashes contained gypsum, Sir Humphry continues,

"These peat ashes are used as a top dressing for cultivated grasses, particularly sainfoin and clover. In examining the ashes of sainfoin, clover, and rye grass, I found that they afforded considerable quantities of gypsum; and this substance probably, is intimately combined as a necessary part of their woody fibre. If this be allowed, it is easy to explain the reason why it operates in such small quantities: for the whole of a clover crop, or sanfoin crop, on an acre, according to my estimation, would afford by incineration only three or four bushels of gypsum. In examining the soil in a field near Newburg, which was taken from below a foot-path near the gate, where gypsum could not have been artificially furnished, I could not detect any of this substance in it; and at the very time I collected the soil, the peat ashes were applied to the clover in the field. The reason why gypsum is not generally efficacious is probably because most cultivated soils contain it in sufficient quantities for the use of the grasses. In the common course of cultivation gypsum is furnished in the manure; for it is contained in stable dung, and in the dung of cattle fed on grass; and it is not taken up in corn [grain] crops, or crops of peas and beans, and in very small quantities in turnip crops; but where lands are exclusively devoted to pasturage and hay it will be continually consumed. Lord Dundas informs me, that having tried gypsum without any benefit, on two of his estates in Yorkshire, he was induced to have the soil examined for gypsum, and this substance was found in both the soils."

It should seem that there are not only some soils on which gypsum has little or no effect, but likewise that it is much more useful in the cultivation of some plants than others. Likewise the manner in which it is applied is a matter of importance.—M Canolle, a French writer observes in substance that plaster acting, or operating chiefly on the absorbent system of plants, its effects are not like those of manures buried in the soil, which act principally on the roots. The latter according to their *particular nature* divide, soften, enrich, warm, or stiffen the soils with which they are mixed. The quantity of plaster spread upon the land is so trifling, that it can have little effect in the soil. "I speak from experience. Plaster buried in the earth where sainfoin has been sown, has produced no visible alteration; whilst the same quantity of plaster spread over the same surface of sainfoin has produced the most beautiful vegetation.

"Whatever may be the soil on which clover, lucerne, and sainfoin naturally flourish vigorously, or with that vigour which encourages us to apply manure, there is no risk in trying plaster.

"It is to be remarked that plaster operates on plants in a direct ratio to the size and number of their leaves. I have spread plaster on land, where sainfoin was mixed with the common grasses, which compose our meadows. The growth of the sainfoin and wild honey-suckle has been, beyond comparison greater than that of the common grasses."

We think it not at all difficult to reconcile the opinions of Humphry Davy and of Dr Gorham, in the only case in which these may be an apparent difference. Gypsum may operate in two modes, to wit, as a stimulus, and also as substance which enters into and composes a part of the plant.—Thus malt liquors at once stimulate and nourish the animal frame. Those plants and perhaps only those in which gypsum is found on chemical analysis, will require it as manure to complete their organization. If gypsum is not supplied by nature it should be furnished by art, but when found naturally in a soil its application by art is of no use. But as it enters into plants in very small quantities, of course small quantities alone are necessarily applied to the soil in which it cannot be found while in a state of nature. As every farmer cannot analyze his soil, in order to ascertain whether gypsum is present or not, it will be best as a general rule to make experiments with small quantities of plaster, on suitable plants and in a proper manner, according to Mr Canolle's directions above, before it is applied in any considerable quantity, otherwise the plaster may be thrown away to no purpose.

NATURAL HISTORY.

In reading the first volume of Dr. Godman's *American Natural History*, we were struck with the following among other curious passages:

OTTERS.

"We have alluded to the sporting of the *Otter*, and may now remark that its disposition in this respect is singular and interesting. Their favorite sport is sliding, and for this purpose, in winter, the highest ridge of snow is selected, to the top of which the otters scramble, where, lying on the belly, the fore feet bent backwards, they give themselves an impulse with the hind legs, and swiftly glide headforemost down the declivity, sometimes for the distance of twenty yards. This sport they continue apparently with the keenest enjoyment, until fatigue or hunger induces them to desist. In the summer this amusement is obtained by selecting a spot where the river bank is sloping, has a clayey soil, and the water at its base of a considerable depth. The otters then remove from the surface, for the breadth of several feet, the sticks, roots, stones, and other obstructions, and render the surface as level as possible. They climb up the bank at a less precipitous spot, and starting from the top, slip with velocity over the inclining ground, and plunge into the water to a depth proportioned to their weight and rapidity of motion. After a few slides and plunges the surface of the clay becomes very smooth and slippery, and the rapid succession of the sliders show how much these animals are delighted by the game, as well as how capable they are of performing actions which have no other object than that of pleasure or diversion."

COURTESY.

His Majesty's Ship Niemen arrived here on Sunday evening, in 56 hours from Boston. The officers of the ship give the most pleasing accounts of the reception they met with in that growing and highly respectable city—former feuds, we hope, have been long forgotten—Massachusetts has been long remarked for her candour and liberality towards the parent country, and if corroborative proof of her good disposition was required, we have it before us of the most satisfactory nature.—*Halifax paper of Nov. 8.*

WORCESTER AGRICULTURAL SOCIETY.

PLOUGHING MATCH.

The Committee on the Ploughing Match report, that they have had great satisfaction in discharging the duty assigned them, though attended with labor and difficulty to decide upon the relative merits of the competitors. The spirit with which the prizes were contested, and the skill and perfection with which the work was done, rendered it extremely embarrasing to settle and award the premiums. This part of our Show has been considered by some judicious farmers and friends to the Society, of but little or no practical utility.—But your Committee deem it one of the most interesting, as well as useful objects of the Society.—The importance of good ploughing to a plentiful harvest, is acknowledged by all, and that every means should be devised to extend a practical knowledge of the art; and what plan has ever been found more effectual for that purpose, than that of establishing a competition among ploughmen, and rewarding those who excel. At these meetings, farmers are instructed, when they come only "to be amused;" their prejudices are worn away, and they are frequently induced to try new modes of culture, and new implements of husbandry. The competition, on these occasions, is among practical husbandmen, coming from different sections of the county, each with his own peculiar notions of the mode of cultivation, drawn from experience and observation, and each with ploughs suited to the cultivation of their respective farms. Hence they mutually instruct each other, and make known their several experiments in the art of tilling their lands, and in the construction of their *ploughs*. From the excellent construction of the ploughs, and the perfection of the work this day exhibited to us your Committee cannot but believe that the present state of improvement, in the construction of the plough, and the art of ploughing, is in some degree, to be attributed to our *Ploughing Matches*. But the time will not admit of an essay upon ploughs or ploughing. Every farmer has his own plans and views upon the subject, which he has attained from actual experience, and nothing that we can say will alter or change his opinions. The competitors are impatient for the awards; and, Mr President, with your leave, I will now proceed to this unpleasant duty.

The ground selected for the Match was of a light, loamy soil, divided into lots of one eighth of an acre each. At 9 o'clock, A.M. the several competitors were on the field; and eleven drew for lots, and entered the list for the premiums.

Lot No 2, Freegrace Marble, of Sutton, two yoke of Oxen, work performed in 35 minutes.
No 3, Silas Dudley, Northbridge, 2 y. 35½ min.
No 4, Wm. Eaton, jr. Worcester, 1 y. 32 min.
No 5, John Sherman, Sutton, 2 y. 31 min.
No 6, Nathl. Gates, Worcester, 1 y. 26 min.
No 7, Rejoice Newton, Worcester, 2 y. 28 min.
No 8, Luther Whiting, Sutton, 2 y. 39 min.
No 9, Ward & Rice, Worcester, 2 y. 26 min.
No 10, Steph. Marsh jr. Sutton, 2 y. 33 min.
No 11, Tyler Putnam, Sutton, 2 y, 30½ min.
No 12, Levi Lincoln, President of the Society, claiming no premium, 2 y. 25 min.
No 13, Royal T. Marble, Sutton, 1 y. 35 min.

Two premiums only were offered by the Society, for ploughing with two yoke of oxen; and four premiums for work performed by one yoke without a driver. The Committee, after much difficulty, (all the work being so well done,) have awarded the premiums, on teams of two yoke as follows:—

First premium to Stephen Marsh, jr. Sutton, $8. Samuel Sibley, ploughman, $4. Stephen Marsh jr. driver, $3.

Second premium to John Sherman, of Sutton, $6. Himself ploughman, $4. Benjamin Woodbury, 3d. driver $2.

But four teams of one yoke of oxen were entered. The Committee, therefore, had only to decide upon their relative merits, rewarding all for their exertions.

First premium of $6, was awarded to Nathaniel Gates of Worcester, himself ploughman, $4
2. To Wm. Eaton, jr. of Worcester, himself ploughman, $6 $4
3. To Tyler Putnam of Sutton, himself ploughman, $5 $3
4. To Royal T. Marble of Sutton, plough and ploughman, $4

The mode of ploughing without a driver is the one which the Society wish most to encourage, as it gives the best evidence of attention in training and disciplining the oxen, besides being a great saving in the expense, so necessary to the farmer's prosperity. All which is submitted.

JONAS L. SIBLEY.
Per order of the Committee.

TEA DRINKING.

There is no subject which has occasioned a greater controversy amongst dietetic writers than the subject of tea. By one party it is decreed as a poison; by another it is extolled as a medicine, and a valuable addition to our food; while some refer all its beneficial effects to the water thus introduced into the system, and its evil consequences to the high temperature at which it is drank. In order to understand the value of the different arguments which have been adduced in support or to the disparagement of this beverage, it will be necessary to inquire into its composition.—Two kinds of tea are imported into this country, distinguished by the epithets *black* and *green*.—Both contain astringent and narcotic principles, but in very different proportions; the latter producing by far the most powerful influence upon the nervous system. As the primary operation of every narcotic is stimulant, tea is found to exhilarate and refresh us, although there exist individuals who are so morbidly sensible to the action of certain bodies of this class that feelings of depression, accompanied with various nervous sensations, and an unnatural vigilance, follow the potation of a single cup of strong tea; while others experience, from the same cause, symptoms indicative of derangement of the digestive organs: but these are exceptions from which no general rule ought to be deduced. The salubrity of the infusion to the general mass of the community is established by sufficient testimony to out-weigh any argument founded on individual cases. It must, however, be admitted, that if this beverage be taken too soon after dinner, the digestion of the meal may be disturbed by the distension it will occasion, as well as by its influence as a diluent; the narcotic and astringent principles may also operate in arresting chymification; but when a physician gives it his sanction, it is with the understanding that it shall be taken in moderate quantities, and at appointed seasons. When drank four hours after the principal meal it will assist the ulterior stages of digestion, as already explained, and promote insensible perspiration;—while it will afford to the stomach a grateful stimulus after its labors. With regard to the objection urged against its use, on the ground of temperature, it will be only necessary to refer to the observations which have been already offered upon this subject. In enumerating, however, the advantages of tea, it must not be forgotten that it has introduced and cherished a spirit of sobriety; and it must have been remarked by every physician of general practice, that those persons who dislike tea, frequently supply its place by spirit and water. The addition of milk certainly diminishes the astringency of tea; that of sugar may please the palate, but cannot modify the virtues of the infusion. [Paris's Treatise on Diet.]

BREWING ESTABLISHMENT.

The Albany papers inform us, that very extensive breweries have been established in that city during the present year. The use of beer is daily becoming more common in our country. We hope to see it take the place every where of ardent spirits. The brewery in Salem belonging to Mr Farrington, has sent out some very excellent beer.

CURIOUS EXPERIMENTS.

From some experiments on the adhesion of glue instituted by Mr Bevan, and an account of which he has inserted in the last number of the Philosophical Magazine, it appears that a force of 1,260 lbs. applied at right angles to the surfaces in contact, was required to separate two cylinders of dry ash-wood of 1½ inches in diameter, and about 8 inches long, after they had been glued together 24 hours. The pressure was applied gradually, and was sustained two or three minutes before the separation took place. The force of 715 lbs. would, therefore, be required to separate one square inch. The force required to separate dry Scotch fir-wood 462 lbs. to the square inch; so that if two pieces of this wood had been well glued together, the wood would have yielded in its substance before the glue. The cohesion of solid glue was 4,000 lbs. to the square inch: from this it may be inferred that the application of this substance as a cement is susceptible of improvement. [Monthly Mag.]

MANUFACTURING OF CALICO.

Till within a very short time it is well known that this article has demanded a high price among retailers who have kept none but such as was imported from Europe. Manufacturers have at length introduced the business of making Calicoes of their own, and there are now many valuable establishments in the country which produce this kind of cloth of the first quality. Within two years the article has been reduced in price 30 per cent, which is doubtless to be attributed to the success of our manufactures. In our immediate vicinity, one manufactory has been in operation about a year and a half, another is now nearly finished of no inconsiderable dimensions. This is situated in Seekonk, on Bucklin's Brook, and we understand that preparations are making to manufacture Calico of the first rate in this mill. It is to be worked by machinery altogether new, and which never before has been introduced in this country. Mr Wilkinson and others are the proprietors of the works, and a small village already appears rising around them in the middle of a forest.

We trust that we shall have occasion little longer to apply to foreign markets for this species of manufacture since our own have already surpassed the use of those imported from France and Great Britain. The domestic Calicoes we are happy to say, meet the approbation of the ladies in preference; owing to the superior strength of their texture, and the permanency of their colors.

[Pawtucket Chronicle.]

THE SULPHATE OF QUININE.

This article which contains the bitter and tonic principle of the Peruvian Bark, in a highly concentrated form, is daily becoming more extensively known, and its efficacy in the cure of diseases, more highly appreciated. When it was first introduced as a medicinal agent, by the French Chemists, and Physicians, its use was confined chiefly, if not entirely, to the cure of the *Intermittent fever*, or *fever and ague*. Even at this period some of our medical men are ignorant of its use for any other purpose. This however, is but one of the many cases where this active preparation has been used with a success unequalled by that of any other article in the class of Tonic medicines. In all cases of debility, from whatever cause, in the absence of high febrile excitement, its efficacy is certain as it is speedy and permanent.—It is peculiarly valuable in those cases of extreme debility, attended with such an irritability of the stomach, as to preclude the use of bark in substance, or other tonics. In but a few cases does it disagree with the patient and its use is free from those chronic complaints of the nervous system which so often succeed the use of *Arsenical* preparations, and *nostrums*, denominated '*ague drops*.' These poisonous specifics ought to give place to the more safe and valuable article under consideration.

As the Quinine is now much used in the cure of the fever and ague by many unacquainted with the nature of the medicine and the disease, it will be proper to state that it should never be used in this complaint, but during the intermission between each paroxysm,or fit of the disease. Its use should be preceded, also, by thorough evacuations from their stomach and bowels. During the hot stage any tonic would only increase the excitement.—Cooling medicines are then indicated. The most convenient preparation of the Quinine is the *solution* made by adding the *salt* to cool water slightly acidulated with sulphuric acid. The dose is one grain every one,two or three hours, according to the violence of the disease, and clearness of the intermission. It may be used with or without Madeira or Port Wine.

The absurd idea that it is dangerous to break the fits of the ague ought to be exploded. There are no constitutions that will not suffer more or less from a continuance of this disease. Enlargements of the spleen,(called Ague Cakes,)derangement of other viscera, debility, dropsical affections and a host of nervous complaints succeed, and complete the wreck of the system. On the contrary, it is esteemed perfectly safe to check the paroxysms at the earliest period. The Quinine, under proper management, will prove infallible in this particular.—*Ohio pa.*

Dr Grant of St. Simon's Island, (Georgia) has presented to the Agricultural Society of that district, a specimen of the *Date*, the product of St. Simons, supposed to be the first specimen of that delicious fruit ever produced in this country.

AMERICAN CARPETING.

We have just seen a piece of Carpeting woven at Tariffville,about twelve miles from this, *by which it appears* that Carpets can be made there of any colours and to any pattern, durable, cheap and elegant. Colouring can be done as well in this country as in any other, and the weaving by this loom is of the right sort. The public will in a short time become acquainted with these carpets and we only claim the credit of being the first to mention them. [Hartford Mirror.]

HONEY A CURE FOR THE GRAVEL.

A number of years ago, says a correspondent, I was much afflicted with the gravel, and twice in serious danger, from small stones lodged in the passage. I met with a gentleman who had been in my situation, and got rid of this disorder by sweetening his tea with half honey and half sugar. I adopted this remedy and found it effectual. After being fully clear of my disease about ten years, I declined taking honey, and in about three months I had a violent fit of my old complaint. I then renewed my practice of taking honey in my tea, and am now more than three score, and have not for the last twenty-seven years, had the smallest symptoms of the gravel. I have recommended my prescription to many of my acquaintance, an I have never known it to fail.—*Political Exam.*

CURE FOR SORE MOUTH IN HORSES.

The following method of practice and recipe for the cure of the prevailing disease among horses, was obtained from Mr Tomlinson, (one of the proprietors of the Western Mail Stages) on his return from visiting the sick horses in the line, and we feel authorized to say, will, if strictly attended to, succeed in curing 99 cases in 100.—*Amer. Farm.*

RECIPE.

On the commencement of the disease, bleed moderately. If the blood, after cooling, appears to have much buff on it, repeat the bleeding—give a pint of castor oil: if it does not operate in 16 hours, give two thirds of a pint. Nitre may be given at the rate of 2 oz. a day, or salts two or three times a week, ¼ lb. at a time; these may be given in a thin mush, or rather slop of bran, it being the best food for the animal while diseased.

Take half a pint of honey, one table spoon full of borax, and one quart of strong sage tea, mix them well together, then take a stick and tie a soft rag to the end of it; dip it in the mixture and wash the tongue, gums and mouth well; the more frequently the better, at least every two hours—sweet milk in the tea will do no harm, or a little nitre may occasionally be put in with good effect—be particular in keeping the mouth clean, and nursing the horse with care.

The pulse, and appearance of the blood, must govern as to the necessity of bleeding more than once.

The Legislature of Vermont have passed a law requiring the venders of lottery tickets in that State to pay for a *license* to sell tickets, the sum of $500 *per annum*. They have also rejected, unanimously, the several resolutions received from the executives of other States, proposing an amendment to the Constitution of the United States.

Mr Fulton, the Civil Engineer, has commenced a survey of all the navigable rivers in Georgia, from the mountains to the ocean.

HOGS.

A western friend informs us that upwards of 60,000 hogs had passed up the valley of the Great Kenhawa, as early as the 5th of November, mostly destined to the eastern part of Virginia. This accession to our usual supply by that route, is principally owing to the very useful and convenient road recently constructed between the Kanawha and James river. The expenditure among our citizens, in bringing hogs to market from our western border is estimated at $1 25 per head; and if the facilities of bringing them to market should only reduce the price of pork 50 cents in the hundred, the results will be a disbursement of about $75000 for corn and other provisions on the roads, and upwards of $50000 saved to the consumers of Western pork. These are interesting circumstances for the consideration of the Legislature, on deciding on the expediency of extending the Kenhawa road to the Kentucky border, and eastward to Staunton.—*Richmond Enquirer.*

PHILADELPHIA.

The Philadelphia Gazette says the improvements in that city for the last ten years must astonish and gratify every citizen. Of public buildings there have been erected the U. S. Bank, the Theatre, five churches, the Deaf and Dumb and the Orphan Asylums, besides many others that have been rebuilt and beautified. The western part of the city has been, and is now rapidly building up, by whole rows of three story brick houses at a time; several public hotels just finished exceed in point of size and comfort any in the Union. The new and beautiful Arcade is nearly finished; new iron water pipes have just been laid throughout the city; a new Exchange and Post Office are to be built, and the city lighted with gas.

The experiments made in the South of Spain, to cultivate the cochineal, have perfectly succeeded. In Murcia,the silk worm from China, which makes the white silk has been introduced.

Thirty new townships have lately been laid out in Maine, on land belonging to that State and Massachusetts; and the soil is spoken of as generally good.

MANUFACTURES.

The manufactures, principally of cotton, in New England, amount to about 400 distinct buildings, appropriated to spinning, weaving, and printing cotton goods. These buildings average, by the best estimates, 700 spindles, many of them (indeed nearly all the new ones) very large; but on the other hand, most of the old ones comparatively very small; so I think the average is safely put at 700 spindles to the building; that makes 280,000 spindles. These, after counting out Sundays, and suspensions from repairs, low water, sickness, &c. run 280 days in the year, and are estimated to consume half a pound of raw cotton per day, which is 140 lbs. to the spindle in a year; this, multiplied by the number of spindles, is 89,290,000 lbs. of cotton, equal to 98,000 bales.

About one third of these buildings weave by power-looms; one other third carry on the weaving by hand, perhaps rather more, and the other spin and send off their yarn to the Middle or Western states, where it is either wove by hand under contractors, as around Philadelphia, or in families, as in the Western country. The manufacturing of cotton goods, or rather spinning, has increased

about one fifth, within the last year, in New England—not in the number of buildings, but the number of spindles; for nearly all the new buildings are large and contain from 2000 to 6000 spindles. The increases for the next year will be nearly as much; for more of the large companies have finished their works, and the act of completing them will insure an increase of 20 per cent for the next year too. I would proportion the 400 cotton factories of New England amongst these States, as follows:—135 for Massachusetts; 110 for Rhode Island; 80 for Connecticut; 30 for New Hampshire: 15 for Maine: 10 for Vermont. Of the 135 for Massachusetts; 50 are within 25 miles of *Boston*, say in Norfolk, Middlesex, and Essex counties; 45 in reach of Narraganset Bay, say in Bristol, Plymouth, and Barnstable counties; 30 in Worcester county; 15 in Hampden, Hampshire, Franklin, and Berkshire counties, neighborhood of Connecticut river. The manufacturers of Rhode Island are in Providence and Kent counties; those of Connecticut line principally on the coast side of Connecticut river, in Windham, New London, Tolland and Hartford counties. There are some, however, up the Housatonic. Those of New Hampshire lie on the Merrimack and about Dover, in the counties of Rockingham, Hillsborough, Strafford, and Merrimac.

The large manufacturing villages or places where much capital is engaged are as follows, and in the following order as to size, viz. Chelmsford, Mass.; Somersworth, Dover, Dunstable, N. H.; Pawtucket, R. I.; Fall River, Blackstone, Mass.; Slatersville, Taunton, Pawtucket, Kent co. R. I.; Ware, Waltham, Mass.; New Ipswich, New Market, N. H.; Springfield, Lancaster, Mass.; Norwich, Ct. &c. Very large companies are forming to go to work at Saco. Me. and Haverhill, Mass. &c. Calico printing now goes on at Chelmsford, Taunton, and Pawtucket. They are preparing to print at Ware, Dunstable, Somersworth, Dover, &c. They already print in New England 60,000 yards a week. One third of the manufactories of New England, including all the new ones, have their machinery on the best models now used in England; another third have fair machinery such as is still used in England; and the other third use machinery which is considered as superseded, but will adopt the best machinery as fast as they get any new. The new and recent establishments in New England have several little inventions of their own that save one third of the work in some processes and which are not yet used in England. The morals of the persons that labor in the factories are quite equal to those of the agriculturists, and higher toned. They dress more decently; are more intelligent; better manners; and the rising generation will be better educated. They consume twice as much as the same number of farmers. They have raised the character of their occupation by regarding it as above all that is menial. They will not associate with colored persons or mere servants, and are reckoned every way equal, and more than equal, to the neighboring farmers. They put in coventry any man or woman who shows any thing dissolute in language or manners, and compel the owner of the factory to discharge such persons immediately, by threatening to leave him, in a body, if he does not.

Schools are well organized among them, on the Monitorial plan. Churches are regularly built and filled; and, in the large villages, lectures are getting up for the laborers, on many of the sciences. The owners of these large establishments express their entire confidence, that in 15 years, they will supply the home consumption of all cotton goods fine and coarse, plain, coloured and printed: and I have no doubt of it myself. They say, also, that they will be able to contend with England in any market in the world (tariff aside.)

The above is a general view of the manufactures of cotton goods in New England, and their prospects. When I get better information of them in other states, I will let you know my estimates for them too. At present I believe there are, in all the other States, 275 cotton factories of the average given to those of New-England, which could make the quantity of cotton consumed amount to 150,000 bales in the year, to which I think it will amount next year without doubt. I will give you some estimates of the prospects of the woollen and iron manufactories in the United States, when I get sufficient data and leisure.—With sentiments of esteem, &c.

[Washington Journal.]

NEW ENGLAND FARMER.

BOSTON, FRIDAY, DEC. 8, 1826.

GOV. LINCOLN'S FARM.

We, not long since, took a morning's ramble over the farm of his Excellency Gov. LINCOLN, adjoining his seat in Worcester; and were much gratified as well as intructed by our excursion.—We observed, among other things, an exemplification of that important fact, viz that the best soil in Massachusetts consists, or may consist, of reclaimed upland marshes; and that the agricultural resources of New England will never be in the highest practicable degree developed till her unproductive, unsightly, and unwholesome swamps are brought under cultivation. The droughts of our soil and climate, according to maxims of philosophy, and the records of experience, will be, on an average of seasons, more and more severe as the country is cleared of trees, and laid open to the unobstructed influence of the sun's rays. Dr Deane observed on this subject, "It is in the power of the farmer in good measure to guard against the ill effects of drought. It is a matter that certainly ought to be attended to in this country, in which almost half our summers are complained of by many, as being very dry. The best method is, to have more of our lowest lands under the best improvement in tillage. If this were the case, we should not so often hear of a scarcity by drought. If it were become customary to plant and sow on drained lands, and in those which are so low and wet as to need laying in ridges, possibly our dry summers would be as fruitful, on the whole, as our wet ones. But, as we manage our lands at present, the case is far otherwise. A great number of people are always reduced to a distressed condition by a dry summer. And they are too ready to consider the shortness of their crops in a dry year as a divine judgment, though they might have prevented it by a more prudent management."

We visited Gov. LINCOLN's farm the 12th of October, and of course before the crops of the latter harvest had been gathered. Every barn, and other receptacle for farm produce, was however already full to overflowing. Even the floors of the barns were crowded with hay and corn stalks. The latter were of a lively green, having been collected as soon as cut, and dried under cover. It should seem that the drought had passed lightly over his Excellency's land, although it laid a withering hand on most of the farms in New England. This was owing to the nature of the soil. In a farm of more than 300 acres, somewhat more than 100, while in its natural state, was, we believe, a rugged, barren morass. But, drained and subdued by skill, industry, energy and perseverance, it had become remarkably fertile. The crops on this portion of the farm were rather benefitted than injured by dry weather; and probably those on the higher and drier portions received advantage from the manure obtained from the ditches, knolls, &c. of the lower part. At any rate the crops were excellent, and mostly produced from a tract, which, but a few years since, was fit for nothing but a habitation for frogs and water-snakes.

We have already published in the New England Farmer, vol. iv. page 180, an extract from the Report of a Committee of the Worcester Agricultural Society, relative to the improvements which distinguish this farm; it is therefore not necessary for us to enlarge upon this topic. We think it a fortunate circumstance, that Governor LINCOLN and others whose character and intelligence place them in the first rank in society, should take and deserve the lead in that pursuit which is of the highest importance to the community, and gives beneficial and indispensable employment to the greatest number of its members.

Measures for the relief of Manufacturers of Wool.

At a public meeting held on the 1st inst. in Worcester to devise measures for the relief of manufacturers of wool, Jas. Draper, Esq. in the Chair, Emory Washburn Esq. James Wolcott Jr. Esq. and Moses John Brown were appointed a committee to draw up a Memorial to Congress on the subject. This Committee presented an able Memorial, which was adopted at the meeting, and James Wolcott Jr. Esq. Capt. J. Southgate, and William Lincoln, Esq. were appointed to procure signatures to, and forward it to Congress.

BOSTON MEDICAL INTELLIGENCER.

We believe that one of the best modes of guarding against the mischief of quackery may be found in the diffusing of such a degree of knowledge among the people at large, that they may be able to detect medical impostors. Another advantage to be derived from such knowledge, consists in its having a tendency to check the presumptuous and hazardous practice of those who, without medical skill, are too ready to undertake, in dangerous complaints, to *doctor themselves*, their families, or dependents. Such people *take medicine* when they should *take advice*. By reading a well conducted medical journal they may gain knowledge enough to be sensible of their ignorance, or at least of the limited extent of their information with regard to the healing art. They may obtain such an insight into the human frame as to have a realizing sense of its being "fearfully and wonderfully made," and not to be tampered with, with impunity. Moreover, such a publication may furnish such information as often to enable intelligent readers to anticipate and counteract the causes of diseases, and supersede the necessity of "sending for the doctor" for every slight complaint, or imaginary ailment. Every housekeeper, male or female should know something of the safest and most efficient remedies for every day complaints; and likewise

should know enough of the symptoms of dangerous disorders, to recognise them on their appearance, that the physician may be summoned in season.

Entertaining such sentiments, we are happy to perceive that "*The Boston Medical Intelligencer*" has assumed a new garb, is enlarged and ably conducted by JOHN G. COFFIN, M. D. This gentleman has been favourably known to the public by several scientific works on medical subjects, dietetics, &c.; and the manner in which he has hitherto conducted the Medical Intelligencer, will, we are confident, extend the sphere of his utility. We wish success to his labors in the "art of preserving and restoring Health," without which there is no such thing as enjoyment or even comfort in this world, and life itself becomes "a burthen too grievous to be borne."

RYE.

The English and some American agricultural writers, represent that but little rye is raised in New England, and that the common bread of the inhabitants is made of Indian corn. These statements may be true in regard to some towns and counties, but are very erroneous in respect to many entensive districts. If we do not err, the quantity of rye produced in New England is sufficient to furnish bread for more than two-thirds of the population. In the old county of Hampshire rye is extensively cultivated, and after supplying the inhabitants, a large surplus is left for the distilleries or exportation. Our estimate may be wrong, but we conclude that the gin-distilleries in South Hadley, Granby, Springfield, Westfield, &c. consume annually more than 100,000 bushels of rye, the produce of the old county, and large quantities of corn. The prices of grain are regulated chiefly by the distilleries, though the markets of N. York and Boston cannot fail to have an influence upon prices here. Rye commonly bears a higher price in this part of the country than wheat in the western part of New York, and is, perhaps, more expensive to the cultivator. We are told that the industrious farmers of Granby raise more grain than those of any other town in the present county of Hampshire.

Of the rye produced in the old county, a great portion is raised on the sandy alluvions of the Connecticut vally, commonly denominated pine plains. These plains, varying in breadth, extend nearly through the State from north to south on both sides of the Connecticut, and with those on the tributary streams, probably cover one-eight part of the three counties. The crops of rye on these plains sometimes rise to 15 or 16 bushels, but do not average over 8 or 9 bushels to the acre. Corn is also cultivated on these sandy soils to some extent; the average crop is not over 15 or 18 bushels. The crops are light, but it should be considered that the labor and expences are also light.

[Hamp. Gaz.]

Morality of the Parisians.—During seven years from 1818 to 1825, the number of children in Paris was 180,189, of whom 54,554 were illegitimate, and 49,503 were *deserted by their parents.* Ten per cent. of the children born in Paris come into the world in the hospitals, and 37 per cent. of the deaths occur in the same abodes of wretchedness.

Strange Apple Tree.—Mr Sylvanus Harris, Jr. of Vernon, Vt, publishes the following in the Brattleboro' paper—"I have an apple tree that blossomed in May, June, July, August, September and October last, and had six growths of apples, as many of my neighbors will attest to. The first growth came to maturity like my other apples; the other growths had no seeds in them, but grew as fast as other apples." [Hamp. Gaz.]

Canals.—The Hudson and Delaware Canal is now fit for use; it was commenced in July 1825, and measures 67 miles in length; it is 36 feet wide, draws four feet water, and its locks are 76 feet by 9. It has a towing walk the whole length, and an aqueduct across the river Rondout. This despatch is unparalleled in our country.

Coal Dust.—A correspondent of the Boston Courier states that this article, commonly considered worthless, may be converted to profit. In England he says, the cinders and ashes from coals are used for burning bricks, and are better for that purpose than coal.

The steam boat Chancellor Livingston, which nine years ago cost $125,000, and is now in good order, and may run several years longer, was lately sold by auction in the city of New York, for $14,950.

It is estimated that there are 15,000,000 *sheep* in the United States.

It is proposed to raise by lottery in Georgia $15,000, to erect monuments to the memory of Greene and Pulaski, heroes of the revolution.

The Government of Chili has appointed a Minister to the United States.

Power and Wealth, like male and female, will find a way to come together. Wealth will court Power, or Power will demand Wealth.

When sir W. Curtis heard that sir W. Kingston (an accoucheur, that is man-midwife) was about to be made a peer he observed that Sir W's title ought to be '*Lord deliver us.*'

Remedies.—For the *gout*, toast and water; for *bile*, exercise; for *corns*, easy shoes; for *rheumatism*, new flannel and patience; for the *tooth-ache*, pluck it out; and for *love*, matrimony.

Agricultural Society.

The Members of the Worcester Agricultural Society, are hereby notified, that a Meeting of said Society will be holden at Thomas's Coffee House, in Worcester on Wednesday 13 inst. at 11 o'clock before noon. A general and punctual attendence is requested, as a very important subject will come before the Meeting.

By order of the President,
WM. D. WHEELER, *Rec. Sec'y.*
Dec. 6.

Farmer's Almanacks.

JUST received a supply of the *Genuine Farmers Almanacks*, by Robert B. Thomas Esq. for sale in large or small quantities at the lowest prices—Also just received, a fresh supply of Stationery—Paper—Fancy Goods—Account Books—School Books and every article pertaining to the stationery line, which includes as great a variety and as good an assortment as can be found in any store in this City—wholesale and Retail by JOHN MARSH, No's 96 & 98 State street.

Bremen Geese and Merino Sheep.

JOHN PERRY has for sale 2 pair of those celebrated geese. Ten Full blood Merino Rams and 30 full blood Ewes. The Ewes have been with two Saxony Bucks. Apply at No. 2 Rowes Wharf. Oct. 26.

Improved Black Ink Powder and Liquid Ink.

SAMUEL KIDDER & CO.

Manufacture Black Ink Powder and Liquid Black Ink of an improved quality.

For more than twenty years, S. KIDDER has been engaged in the manufacture of Ink Powder, and has during that period devoted his attention to the improvement of the composition. The article now offered the public, is warranted equal to any in the country. Its peculiarities are, a permanent black, without the usual glutinous properties which prevent the easy flow of the Ink from the pen.

It is deemed unnecessary to assert any thing further in favour of the above named article, but respectfully refer to the annexed certificate.

The Ink made by Messrs. SAMUEL KIDDER & Co. we consider uncommonly good, and at least equal to any which we have ever used.

Samuel Payson,	*Cashier*	Mass.	Bank.
Chester Adams,	"	Union	"
Charles Hood,	"	Com'wealth	"
John S. Wright,	"	American	"
Chas. Sprague,	"	Globe	"
D. A. Sigourney,	"	Washington	"
Gurdon Steele,	"	North	"
Henry Jaques,	"	Bunker Hill	"
Martin Lane,	"	Cambridge	"

Boston, July, 1826.

☞For sale, wholesale and retail, by the Proprietors, under Washington Hall, Charlestown, Mass. and by appointment, by JOSEPH KIDDER, 70, Court-street, Boston. oct 27.

PRICES OF COUNTRY PRODUCE.

		FROM D.	TO D.
APPLES, best,	bbl	1 50	2 00
ASHES, pot, 1st sort,	ton.	85 00	87 00
pearl do.		105 00	110 00
BEANS, white,	bush	1 50	1 60
BEEF, mess, 200 lbs. new,	bbl.	8 25	8 50
cargo, No 1, new,		6 25	6 50
" No 2, new,		5 00	5 50
BUTTER, inspect. No. 1. new,	lb.	14	16
CHEESE, new milk,		7	9
skimmed milk,		3	5
FLAX		10	11
FLAX SEED	bush	90	1 60
FLOUR, Baltimore, Howard St	bbl.	5 87	6 00
Genesee,		5 75	6 00
Rye, best,		3 25	3 50
GRAIN, Rye	bush	86	90
Corn		84	87
Barley		1 00	1 10
Oats		53	55
HOGS' LARD, 1st sort, new,	lb.	9	10
HOPS, No 1, Inspection			
LIME,	cask	87	95
OIL, Linseed, Phil. and Northern	gal.	75	80
PLAISTER PARIS retails at	ton.	2 50	2 62
PORK, Bone Middlings, new,	bbl.	12 00	12 50
navy, mess, do.		9 50	10 00
Cargo, No 1, do.		9 00	9 25
SEEDS, Herd's Grass,	bush	2 50	3 00
Clover	lb.	8	
WOOL, Merino, full blood, wash		30	45
do do unwashed		20	30
do 3-4 washed		25	33
do 1-2 do		23	28
Native do		20	23
Pulled, Lamb's, 1st sort		38	42
do Spinning, 1st sort		28	33

PROVISION MARKET.

BEEF, best pieces	lb.	8	10
PORK, fresh, best pieces,			6¼
" whole hogs,		5	6
VEAL,		6	10
MUTTON,		4	8
POULTRY,		7	12
BUTTER, keg & tub,		17	18
lump, best,		22	
EGGS,			20
MEAL, Rye, retail,	bush	90	1 00
Indian, do.		90	1 00
POTATOES,			40
CIDER, liquor, (new)	bbl.		1 40

MISCELLANIES.

BITTERS TO BE AVOIDED.

The man who thinks he cannot eat,
Before he takes a bitter,
Will soon find out which is the cheat,
And who the duped creature.

He brings a habit on himself,
Which hurts his constitution,
Unnerves his limbs, destroys his health,
And shakes his resolution.

The bitter only tends to bring
An uncontroll'd desire,
To double every dose again,
Till his poor frame's on fire.

Thus, by degrees, he swigs it on,
Till he has lost all shame;
And no advice his friends can give
Will stop the raging flame.

With faltering limbs and bleared eyes
He staggers through the street,
Derided by the idle boys
Whom he may chance to meet.

At home, his family forlorn,
Oppress'd with heartfelt grief,
Feel the sharp stings of sorrow's thorn,
But cannot find relief.

The die is cast—fill'd with disgrace,
Drawn from the pois'nous bowl,
He is a pest to all his race,
A murd'rer of his soul.

Connecticut Observer.

Getting lost in the Woods.—There was a paragraph lately going the rounds of the papers, giving an account of a little boy who lost himself in the woods of Nova Scotia. In new countries, such as the western parts of the Atlantic states, accidents of this kind frequently occur. We once heard a singular story of this kind, which the relater vouched as being the truth. It happened in that part of Nova Scotia which is watered by the Annapolis river.

A wealthy young farmer took himself a wife from Halifax. She was at home in the mazes of the cotillion and the country dance,but those of a wilderness she had seldom seen. She was led to the altar, had her wedding ring put on her finger, and came to the country to enjoy the honey-moon. All was happiness, delight, and enjoyment. As she passed to her lasting habitation, she looked upon the wilderness with wonder and surprise.

There are woods and some forests round Halifax, but young girls now-a-days (and at that time too) knew better what India beyond the Ganges is than the natural features of the next county or even the next parish.

The honey-moon commenced with rapture, and every thing passed off like a dream of delight.—The young bride was in the habit of taking a walk out in the morning, during which time she frequently entered the woods, but took especial care not to lose her way beyond retrievement. One day she expressed a desire to walk about a mile by a footpath through the woods, to see an old relation of her husband's, who could not call upon her. In pursuance of this determination she set out, and by her friends at home was supposed to have reached the place.

In the evening the young husband went to escort his wife home, but on reaching the place of her supposed visit he was alarmed to find that they had neither seen nor heard of her. Opinions were formed that she had called upon some of the other neighbors, but on inquiring it turned out not to be the case. The husband then said that his wife must have lost herself in the woods, and the terror of himself and his friends were excited to the utmost. No accounts were heard of her, and several days were spent in search. The husband became disconsolate. He dreaded the worst. The whole settlement became excited on the occasion, but fruitless every search was found. A week, a fortnight, and a month passed. The unfortunate young woman was given up for lost. The young man (her husband) made every search, but it was of no avail.

In about a year after, at the distance of five miles from the settlement, a wood-cutter one day fell in with a skeleton of some curious creature, as he thought, which excited his curiosity. On one of the small bones of what appeared to be a finger he found a gold ring, which, on being showed to the young widower, he recognised to be the wedding-ring of his long lost bride.—*National Adv.*

LOTTERIES.

By the last arrival we are informed that lotteries have now ceased altogether in England. State lotteries were hatched by Queen Anne in England, and ever since that day they have been more or less used. Of late years people became tired of them. For a whole day last month, the termination of the lottery system was the topic of conversation in the city of London. When the drawing took place, a number of tickets remained in the hands of the venders, who are now at liberty to turn their attention to some other business.

Some one in Baltimore has invented a new system of drawing lottery tickets. It is called the "Unit System." As usual it is considered of "great importance to adventurers," and we are assured that a *thousand tickets* will always draw some prizes. Very likely they will.

Genius.—"I know of no such thing as genius," said Hogarth to Mr Gilbert Cooper; "genius is nothing but labour and diligence." Sir Isaac Newton said of himself, "That if ever he had been able to do any thing, he had effected it by patient thinking only."

Dangerous Fun.—At Petersburg, Va. a man is to be tried for imposing upon the Editor of the Petersburg Intelligencer on account of a marriage which never took place.

The weight of the Ox slaughtered last week at South Boston for the inmates of the House of Industry was as follows, viz:—hide 138 lbs. tallow 152, fore quarters 725, hind quarters 650—total 1665 lbs. This was one of the fine pair presented to the city by Mr Boylston: the other will be kept till Christmas.

Speaking of *Gen. Washington's* remarkable *muscular strength*, P. Henry used to mention, that the General once threw a dollar, from the bottom of the chasm under the Natural Bridge, on to the bridge, a perpendicular height of 212 feet. Mr Henry said, that none of the other numerous attempts to do this ever succeeded.—*Bos. Gaz.*

The dreadful disease among horses, called the burnt tongue, pravails to a great extent along the route from Pittsburgh to Philadelphia. In some instances it has proved fatal. Stages west of the Alleghany have been stopped, and a number of wagoners have been obliged to lie by in consequence of it. The same disorder prevails in Maryland.

WILLIAM PRINCE, proprietor of this establishment, offers to the public the most extensive collection of Fruits, Ornamental Trees, and Plants in America. The Fruits have been selected by actual investigation of their merits, and nearly all of which are engrafted from bearing trees.

In the selection, which has been the particular pursuit of his father and himself, for more than half a century, he has spared neither pains nor expense, and such as did not possess particular merit have been rejected and their accuracy has been tested by the best authors of the age.

In the present catalogue he offers above 500 new varieties of Fruits not to be found in any other collection, in America, and which include the most celebrated kinds that have within a few years past been brought into notice and recommended by those distinguished Horticulturalists, Van Mons & Duquesene, and by Mr Knight, President of the Horticultural Society of London.

In regard to the character and accuracy of the Fruits sent from this establishment, the proprietor refers to the Hon Jonathan Hunnewell, and other gentlemen in Boston and its vicinity, who have patronized his establishment for the last fifty years, and particularly to the fruit of the various kinds with which the Boston market is now supplied from the extensive collection of trees furnished the late Dr Oliver Smith, Secretary of the Massachusetts Agricultural Society, who, more than thirty years since, had several thousand trees annually, which were distributed among the members of that Association. It may perhaps be deemed worthy of notice that near 100 varieties of the fruits offered for sale, by the proprietor, are different from those cultivated by other establishments under the same names, and the identity of every fruit sent by him, the proprietors expressly guarantees.

Catalogues may be obtained gratis of the subscriber, and orders left with him, (if from a distance post paid) will meet prompt attention.

JOSEPH BRDIGE, Agent for the Proprietor, No 75 Court street, Boston. Sep. 29.

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THE Agricultural Establishment is removed to No. 52 North Market Street, opposite the north side of Faneuil Hall,—where may be had a great variety of agricultural implements.

HAY CUTTERS, some very low prices.
Bailey's and Flagg's improved CORN MILL.
CORN CRACKERS, for grinding corn and cobs.
Wood's, Tice's, Howard's and other improved cast and wrought iron PLOUGHS,
Patent Hay and Manure FORKS.
Gault's patent and common CHURNS.
STONE MILK PANS.
Lovett's improved CHEESE PRESS.
Brass and composition BALLS.
Twenty bushels of MILLET SEED.
Also, a large and convenient counting room and chamber to let. Nov. 24.

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